

REMARKS

Examiner has kindly provides reference prior arts about the present invention, and thus the applicant has more information about the invention. All details of the reference prior arts are fully considered and compared with the present invention.

Indeed the citations disclose some features of the present invention, and the applicant agrees with these viewpoints, however applicant discovers that some features of the present invention are not wholly disclosed by the citations, which are claimed in the original specifications and especially drawings.

As comparing from the cited Kuse's reference USP 5,536,343, applicant decides to cancel Claims 1 and 2, without prejudice or disclaimer of the subject matter thereof, and add new claim 3. The added new claim 3 is based on the original claim 2 and the original specification (the original claim 2 is based on the original 1 and the original specification). Thereby, it is assured that the new claim 3 is based on the original claim and specification and thus no new matter is added. The claim 3 is listed the following remark, which shows the relation of the claim 3 to the original claims and specification.

LIST OF CLAIMS:

Claims 1 and 2 (Cancelled)

Claim 3. (New claim) A method for manufacturing a zipper without shift in injection molding; comprising the steps of:

forming a bank of continuous zipper teeth on an inner side of each of two parallel zipper strips by molding injection;

wherein an inner side of each zipper strip has a respective connecting strip;

scraping a part of zipper teeth on each zipper strip;

melting two layers of films so that each films enclosing two sides of each zipper strip at the part without zipper teeth by thermal pressing technology;

punching a notch ~~hole~~ at an inner lateral side of each film and the notch ~~hole~~ passing through each zipper strip, but the connecting strip at an inner side of the zipper strip is remained and one side of the notch is adjacent to the connecting strip;

guiding the two zipper strips into an upper and a lower engaging piece molds; and tensioning the zipper strips within the mold so as to place the zipper strips on the molds flatly;

injection-molding upper engaging pieces at inner sides of the zipper strips and injection-molding lower engaging pieces at inner sides of the films, wherein the engaging pieces protrude from a respect one of the notches; removing the molds from the zipper strips and removing other undesired objects; and

cutting the zipper strips through the holes, thus forming the engaging pieces of a zipper;

wherein in the step of forming the hole, the connecting strip at an edge having the films must be retained for fixing the zipper teeth; when the zipper strips are tensioned within the molds, the zipper strips will resist against a pulling force applied thereon; thereby, the zipper strips are precisely positioned in the upper engaging piece mold and the lower

engaging piece mold.

DISCUSSION OF THE NOVELTY OF THE PRESENT INVENTION

In the amended claim 3, there are two features are added thereto, which are:

"one side of the notch 14 is adjacent to the connecting strip 111;"

"wherein the engaging pieces 16 protrude from a respect one of the notches"

(these two features can be seen from Fig. 10 of the present invention)

Applicant considers that the new claim 3 is sufficient to make the present invention differ from the cited Kuse's reference, USP 5,536,343. We will explain the reasons in the following.

(a) These features are illustrated in the attached drawings. It is illustrated that the notch 14 is adjacent to the connecting strip 111. However, the cited Kuse's reference USP 5,536,343, (see Fig. 9 of the citation), it is illustrated that the holes 16a, 16b are completed holes (not notches), which do not adjacent to the connecting strips. In manufacturing, the holes 16a, 16b of the cited Kuse's reference is fixed by pins for fixing, but in the present invention, the notches 14 are not used in fixing. No pin is inserted into the notches 14. In the present invention, two notches 14 in the manufacturing process do not fixed, they are not used to fixed.

Moreover, in the new claim 3, we have redefined that "one side of the notch 14 is adjacent to the connecting strip 111;" (which is illustrated in Figs. 9 and 10 of the present invention). However, from

this viewpoint, the present invention is different from the citation. In the citation, the holes 16a, 16b (Fig. 9 of the citation) are independent from the connecting strips.

(b) Although in cited Kuse's reference, see Fig. 10 of the citation, two notches 33 are illustrated. The notches 33 are adjacent to the connecting strips 34, but in the present invention, in the manufacturing process "the connecting strip at an inner side of the zipper strip is remained". Referring to Fig. 9 of the present invention, it is illustrated that the connecting strips 111 are remained without being cut off, but in Fig. 10 of cited Kuse's reference, it is illustrated that in the manufacturing process, the connecting strips 34 are cut off.

Furthermore, from above discussion in (a) and (b), it can improve that the embodiments of cited Kuse's reference can not be used to reject the novelty of new claim 3 of the present invention.

Moreover, in the present invention, "wherein the engaging pieces 16 protrudes from a respect one of the notches". (see Fig. 12 of the present invention) This feature causes that after assembly, the engaging pieces 16 are protruded from the films 12 and the connecting strips 111 are embedded into the engaging pieces. These features cause that zipper of the present invention has a firm structure. Please referring to Fig. 12 of the present invention, it is illustrated that the connecting strip is extended to the end portions of the engaging pieces 15 and 16 so that in the manufacturing process, the zipper strips can be precisely and steadily positioned in the upper and lower mold. However, the citations can not achieve this object.

In the following, we will show the advantages of the present invention. Referring to Fig. 3 of the present invention, it illustrates the prior art manufacturing process, in the prior art the connecting strips 92 are cut off so that in the manufacturing process, the notches 93

will be expanded so that only a smaller part of film 92 is clamped by the engaging pieces 94. . As a result, the film 92 is shifted as it is located within the engaging pieces 94, 95 and thus only a part of the film is engaged by the engaging pieces 94, 95. Thereby, if an outward force is applied to the engaging piece 94, it is very possible that the film 92 will separate from the engaging piece 94 so as to destroy the structure of the zipper.

The object of the present invention is to improve above mentioned defects. In the present invention, the connecting strips 111 are remained so that in the manufacturing process, since the connecting strips 111 will fixed the opening of the notch 14 so that the notch will not be expanded and a predetermined sufficient amount of the film 13 (see Fig. 10 of the present invention) is clamped in the engaging piece. Thus, the zipper has a film structure.

Furthermore, in the present invention, "wherein the engaging pieces 16 are protruding from a respect one of the notches" Thereby, see Fig. 12 of the present invention it is illustrated that after a zipper is complete, the engaging piece 15, 16 is protruded from the film 3.

As comparing from Fig. 9 of the citation, it is illustrated that the cited Kuse's reference can not achieve this function, no any part in the specification or drawings of the cited Kuse's reference discloses such a function. However, if the engaging pieces are protruded from the film, the film will be will protected within the engaging piece.

Moreover, see the attached drawings (same as Fig. 12 of the present invention), it is illustrated that for a zipper according to the present invention, the connecting strip 111 is remained in the zipper piece 15, 16 and the film is connected to the connecting strip. Thus, by using the manufacturing method of the present invention, since the film is connected to the connecting strip, the zipper has a

film structure.

Therefore it is apparent that in this point, the present invention is different from the citation. Thus the present invention is an invention of inventive step and novelty.

Applicant requests and authorizes Examiner to amend the claims of the present invention so that the claim can match the requirement of U. S. Patent. Attentions of Examiner to this matter is greatly appreciated.

Since in above discussion, it is apparent that no prior art has the features of the present invention, especially in new claim 2. Furthermore, as we know that no other prior art has features of the present invention. Thus, the present invention is novel and inventive.

It is now believed that the subject Patent Application has been placed in condition for allowance, and such action is respectively requested.

Respectfully submitted.

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